Chapter 3
Culturally Compatible Usability Work: An Interpretive Case Study on the Relationship between Usability Work and Its Cultural Context in Software Product Development Organizations

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ABSTRACT
This paper analyzes how organizational culture is intertwined with usability work in software (SW) development organizations. Usability is an important quality characteristic of software products and systems. However, the development of usability is challenging in SW development. Organizational culture has been argued to affect usability work in SW development organizations, thus, this paper takes a culture-oriented approach in the analysis of usability work in two SW development organizations operating in the product development context. First, based on a literature review, a definition of usability work is offered. An interpretive view of organizational culture, acknowledging its recent critique, is then introduced and utilized in the empirical analysis. The empirical results suggest that differences exists in how usability work is modified and interpreted in the organizations with divergent cultural contexts, those advocating different motives and practices for usability work. Finally, the importance of understanding the cultural context into which usability work is introduced is emphasized, and it is argued that culturally compatible strategies to usability work should be adopted.

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1. INTRODUCTION

This paper examines how organizational culture and usability work are intertwined in software (SW) development organizations operating in the product development context. Generally, usability is an important quality characteristic of a software products and systems (Gulliksen et al., 2006; ISO 9241 1998; ISO 13407 1999). Especially the field of Human Computer Interaction (HCI) has addressed the development of usable software products and systems in approaches such as Usability Engineering (UE) and User-Centered Design (UED) (Iivari, 2006a; Kujala, 2003; Mayhew, 1999b; Nielsen, 1993; Rosson & Carroll, 2002). Within the field of HCI, a widely cited definition of usability specifies it as “the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use” (ISO 9241 1998). Also Information Systems (IS) research has emphasized the importance of usability: it has been praised as an essential element in technology acceptance (Davis, 1989) and diffusion of innovations (Rogers, 1995). The Technology Acceptance Model, widely utilized in IS research, defines as relevant aspects in the acceptance process to be perceived usefulness – “the degree to which a person believes that using a particular system would enhance his or her job performance”; and perceived ease of use – “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989, p. 320). The theory of diffusion of innovations is another widely used theory within the IS field. The perceived usefulness is very similar to the relative advantage construct in the theory of diffusion of innovations, the perceived ease of use resembling very closely the complexity construct (cf., Rogers, 1995). One can conclude that the importance of usability (as well as usefulness) is accepted within the both research fields, the field of HCI, however, providing also practical guidance for developing usability. Therefore, in this paper, HCI literature on developing usability is reviewed, as a result of which the concept of usability work is defined.

Afterwards, an interpretive view of organizational culture as continuous spinning and re-spinning of the fragile webs of meaning (cf., Ortner, 1999) is introduced, and the paper examines usability work and its cultural context in SW development organizations operating in the product development context. Product development refers to the development of commercial, generic SW for external use, the SW being targeted at large user population that might be unknown until the product is on the market (Carmel, 1997; Carmel & Sawyer, 1998; Grudin, 1991a; Grudin & Pruitt, 2002; Keil & Carmel, 1995; Kujala, 2007). One can argue that in this context an ideal is that “anonymous and un-locatable designers (…) deliver technological solutions to equally de-contextualized and consequently un-locatable users”, an ideal which can be labeled as “design from nowhere”, which is “closely tied to the goal of construing technical systems as commodities that can be stabilized and cut loose from the sites of their production long enough to be exported en masse to the sites of their use” (Suchman, 2002, p. 95). The product development context is a new and less studied context in IS research; but it is the context in which the field of HCI emerged (Grudin, 1991a). In the IS literature the traditional context has been custom IS development (Grudin, 1991a; Markus & Mao, 2004), but new trends – e.g. package installations, outsourcing, web information systems – have emerged (Markus & Mao, 2004), making the product development context and its challenges relevant also for the IS community.

HCI research has assigned the responsibility of the development of usability to a group of specialists variably called usability, UCD, UE or human factors specialists in the literature (Aucella, 1997; Bias & Reitmeyer, 1995; Borgholm & Madsen, 1999; Bødker & Buur, 2002; Fellenz, 1997; Gulliksen et al., 2006; Iivari, 2006a; Iivari,
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